

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002084**Date Inspected:** 27-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**New Tower Shop:**

The QA Inspector randomly observed ZPMC Heat Straightening Personnel utilizing hand torches with rosebuds, to perform heat straightening operations per HSR1(T)-353 [p311(N)] and HSR1(T)-346 [p261(S)].

The QA Inspector randomly observed ZPMC welders Jiang Zhou ID Number 040434 and Chang Chuan Cang, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G Position (Flat Groove) with ZPMC Weld Procedure Specification (WPS) WPS-B-P-2231-TC-U5b, to weld the fill passes in Weld Joint (WJ) Numbers MUC-A116-1 and MUC-A116-2 on the inside of Interior Corner Splice Plate Sub-Assembly p918/A116. The QA Inspector randomly observed ZPMC CWI Xu Le Feng monitoring weld parameters. The attached photograph provides additional detail.

**New OBG:**

The QA Inspector randomly observed ZPMC welder Hong Yong Li ID Number 044801, utilizing the FCAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-223(2)1T, to weld the fill pass on Side Plate Section SP22A to Side Plate Section SP30A at WJ SEG016A-005. The QA Inspector randomly observed ZPMC CWI Chen Chih-Ming monitoring weld parameters. The QA Inspector also randomly monitored weld parameters

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and recorded them as follows: 282 amps, 28.7 volts with a travel speed of 203 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Gao Dongliang ID Number 048714, utilizing the FCAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-223(2)1T, to weld the fill pass on Side Plate Section SP18A to Side Plate Section SP26A at WJ SEG015A-002. The QA Inspector randomly observed ZPMC CWI Chen Chih-Ming monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 282 amps, 28.7 volts with a travel speed of 203 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Wang Lan Ying ID Number 045265, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-2221-B-L2c-S-1, to weld the fill pass on Side Plate Section SP22A to Side Plate Section SP30A at WJ SEG016A-005. The QA Inspector randomly observed ZPMC CWI Chen Chih-Ming monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 648 amps, 33 volts with a travel speed of 531 mm per minute. Weld parameters appeared to comply with contract requirements.

Bay 7 OBG:

The QA Inspector randomly observed ZPMC welder Huang Xin Lan ID Number 044780, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-2221-B-L2c-S-1, to weld the fill pass on Floor Beam Diaphragm Sub-Assemblies FB003-0-001. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 535 amps, 31.8 volts with a travel speed of 445 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Welder Ren Jinzhu ID Number 044837, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-P-2114-FCM, to weld gussets to Floor Beam FB014-05 Diaphragm Web. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang, monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

Bay 8 Tower:

The QA Inspector randomly observed ZPMC welder Ma Ying ID Number 045270, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-3221-B-U3c-S-1, to weld the fill pass in WJ ESD1-SA226-10A on Tower Diaphragm Sub-Assembly SA226(E) to p407(E). The QA Inspector randomly observed ZPMC CWI Sha Zhi monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 628 amps, 30.8 volts with a travel speed of 470 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

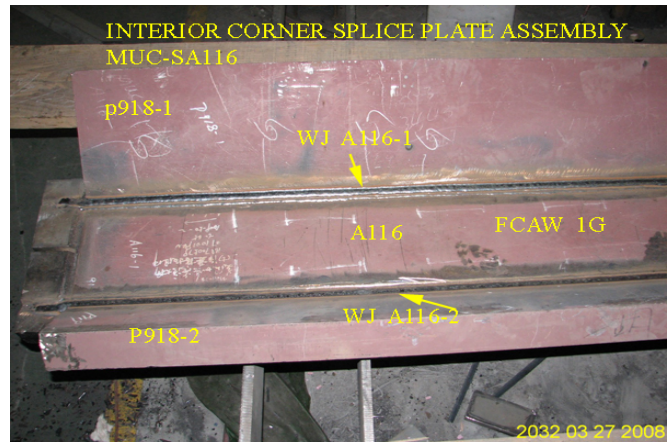
The QA Inspector randomly observed a ZPMC Carbon Air Arc (CAA) Operator utilizing the CAA Process, to back gouge WJ SSD1-SA293-1B/2B on Tower Diaphragm Sub-Assembly SA293 1B/2B(S). The attached photograph provides additional detail.

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## Summary of Conversations:

There were no relevant conversations.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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**Inspected By:** Franco,Charlie

Quality Assurance Inspector

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**Reviewed By:** Hager,Craig

QA Reviewer